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Progress in the implementation of the programme of action for the sustainable development of small island developing States

Report of the Secretary-General

Addendum

Biodiversity resources in small island developing States*

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I. Introduction

1. Biodiversity in many small island developing States is threatened by a combination of factors, including the fragility of their ecosystems and widespread anthropogenic interventions. People of small island developing States rely heavily on their biological resources for their economic, social and cultural well-being. To that end, conservation and sustainable use of the biological resources of those States is essential. Effective conservation and sustainable use of biodiversity entails, *inter alia*, the sustainable management of habitats and genetic resources for food and agriculture, including forestry, fisheries and aquaculture. Among other factors, the issues and challenges posed by structural adjustment and economic reforms, the trend towards economic globalization and trade liberalization and demographics have a bearing on the implementation of effective sustainable management policies and measures.

II. Major problems

2. The major problems related to the conservation of biodiversity in small island developing States include the following:

(a) Demographic and economic pressure. Many small island developing States are experiencing high rates of population growth. In the face of increased need for food supplies, most small island developing States are facing a decline in available seafood as a result of over-harvesting of staple inshore food fish. The rapid population rise in many small island developing States threatens both their marine and terrestrial biodiversity because it leads to intensive fish harvesting, which depletes fish stocks and to unsustainable fishing methods, the use of dynamite for instance, which are very destructive. The same pressures lead to the clearing of forests for the expansion of agriculture. Population growth also increases the demand for residential and industrial land, thus contributing to the rapid depletion of forests and to the construction of buildings on agricultural land. In some cases, attempts to reclaim land have led to the destruction of mangroves. Furthermore, population growth results in large quantities of waste, which, owing to limited space, is difficult for many small island developing States to dispose of without causing environmental degradation. Such waste when dumped in to bodies of water, causes water pollution and the degradation of the habitat.

(b) Natural disasters. The impact of natural disasters (hurricanes, typhoons, volcanic eruptions etc.) on the biodiversity of small island developing States is usually greater than in larger countries in terms of the proportion of the damage, because of the narrow habitat ranges, and the small population sizes of many species in these countries. The high degree of endemism of many plant and animal species within small island developing States means that their species are especially vulnerable and even susceptible to extinction in the face of severe natural disasters. For example, the mountain chicken (a frog) in Montserrat is thought to have become extinct because of the acidification of standing water on the island as a result of recent volcanic eruptions.

(c) Introduction of exotic genetic resources. Over half the small farms in small island developing States are based on subsistence farming. This may be environmentally-friendly, but has the disadvantage of low productivity. Owing to population and economic pressures, farmers are increasingly using modern cultivars to attempt to increase agricultural productivity. As the trend continues, exotic genetic resources are likely to replace the local, low-yielding cultivars, resulting, over time, in a loss of plant and animal genetic resources.

III. Progress made in the conservation of biodiversity

3. In the five years since the adoption of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States, some progress has been made in implementing measures for conservation of biodiversity in those States. The major initiatives include:

(a) Ratification of the Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Most small island developing States have ratified the Convention on Biological Diversity. A number of them also have prepared country studies on biodiversity and national biodiversity strategies and action plans. A few small island developing States are also preparing national biosafety frameworks. In almost all small island developing States, national strategies for biological diversity have been incorporated into planning structures (e.g., the National Environment Management Strategy and in integrated coastal areas as well as marine resources plans). At the international level, the negotiations of the Biosafety Protocol of the Convention on Biological Diversity are nearing completion. The Protocol will be finalized in Cartagena this year. Its goal is to safeguard biodiversity against the possible adverse effects of genetically-and-living modified organisms, as well as to contribute to the conservation of biodiversity in all countries,

including small island developing States. In response to a decision of the tenth Meeting of the Conference of Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the secretariat of the Conference adopted measures to assist small island developing States to ratify the Convention. The measures include: (i) designation of a small island developing States coordinator for activities relating to the Convention; (ii) preparation of information packages; (iii) provision of technical assistance; and (iv) encouraging non-parties to the Convention to promote compliance with its requirements.

(b) Development of regional plans to conserve biodiversity. Small island developing States in all regions have developed regional action plans for implementing the Barbados Programme of Action. The plans identify major issues, as well as actions needed to address priorities, of which biodiversity is one. Regional strategies for implementing the International Coral Reef Initiative have also been adopted in all regions. Regional organizations (e.g., the South Pacific Regional Environment Programme), have embarked on capacity-building programmes and have undertaken to provide specialist support to participating countries.

(c) Review of small island developing States' biodiversity: A Global Review of Biodiversity in Small Island Developing States has been carried out by the World Conservation Monitoring Centre. The Food and Agriculture Organization of the United Nations (FAO) has carried out a review of the uses and status of trees and forests in land-use systems and has proposed measures for (i) the development of agroforestry strategies; and (ii) the conservation of diversity of species used in traditional agroforestry systems.

(d) Community involvement and use of traditional knowledge for ecosystems preservation. Community participation is a major theme in the small island developing States. Several national and regional programmes have been put in place involving the full participation of communities. In selected areas, communities have taken part in identifying their specific needs and have been assisted in the creation and implementation of their own community action plans. Successful examples include: (i) the Comoros integrated coastal areas management plans, prepared with full community involvement; and (ii) the Marine Turtle Conservation Strategy of the South Pacific. The United Nations Educational, Scientific and Cultural Organization (UNESCO) is keeping a record of and utilizing traditional ecological knowledge of biodiversity for a number of small island developing States.

(e) Protection of important sites. Small island developing States in all regions have assigned specific areas for biodiversity protection. Examples include: the Coastal and Marine Biodiversity Project in Dominica and 14 conservation areas in 11 States in the South Pacific, which are either in the design or implementation stages.

IV. A success story: the Bahamas Biodiversity Data Management Project

4. The Bahamas is an example of a large open-ocean island system. It consists of 35 major islands covering an area of 100,000 square miles of crystal clear water. Through its Biodiversity Data Management Project, the country has developed a Biodiversity Data Management Report and Plan which have resulted in:

(a) The establishment of the Bahamas Environment Science and Technology Commission, the hub mechanism/clearing house for coordinating and monitoring environmental and biodiversity activities;

(b) Establishment of an agency-wide mechanism for efficient management and processing of information in support of the Convention on Biological Diversity;

(c) Creation of a set of management tools to support the decision-making process;

(d) Establishment of the Bahamas Natural Resources Bibliography as a metadatabase on scientific research conducted throughout the Bahamas;

(e) The development of the Geographic Information System (GIS) node of the Bahamas Environment Science and Technology Commission with some computerized data on relevant biodiversity databases from various agencies.

5. The implementation of the project is an ongoing long-term activity. Additional work is required to develop procedures for updating management tools produced under the aegis of the project and for disseminating the collected information via different media (e.g., Internet).

6. Constraints encountered during the implementation of the project include: (a) inadequate availability of financial and human resources; and (b) inadequate national capacity for project implementation.

V. Constraints encountered in implementing measures to conserve biodiversity

7. The major constraints encountered are summarized below:

(a) Inadequate financial and human resources. The conservation of biological diversity is not given sufficient priority in national programmes. As a result, there is a low level of funding for biodiversity initiatives. However, some funding is allocated to activities which contribute to the sustainable use of biodiversity resources, for example, pollution control, which contributes to habitat protection. Small island developing States often have an inadequate human resources capacity to implement sustainable development projects. Existing personnel are often overloaded with other work, leaving little time or resources to address biodiversity issues. In some cases, protected areas have been established but not satisfactorily maintained owing to inadequate human and financial resources.

(b) Inadequate coordination among agencies. There have been several attempts by international agencies to implement projects on the conservation of biodiversity in the small island developing States. However, the overall effect has been minimal, in part owing to uncoordinated agency activities.

(c) Lack of coordination at the national level. Most small island developing States do not properly coordinate their development activities. Conservation of biodiversity is an interdisciplinary subject that must be fully integrated into the whole planning and development system of a country in order to ensure that it is properly addressed. All relevant sectors (e.g., land use, pollution control, agriculture) can impact on biodiversity in the small island developing States and should therefore be taken into account.

(d) Lack of inventory of biological resources. The effective conservation of the biological resources of the small island developing States also requires information and data on the types and numbers of biological organisms. Such information, however, is often unavailable, making it difficult to plan mitigating measures.

(e) Lack of integrated strategies for the management of terrestrial and marine biodiversity. Biodiversity conservation is an interdisciplinary field, given that activities in many sectors can have an impact on it. Most small island developing States, however, have not adopted integrated strategies to deal with the conservation of biodiversity.

VI. Priorities for future action

A. At the national and regional level

8. Priorities for the future identified on the basis of national, regional and international reports include:

(a) Development and implementation of national biodiversity strategies and action plans. Completion and implementation as called for under article 6 of the Convention on Biodiversity, of comprehensive national biodiversity strategy and action plans that, by individual country, (i) assess the state of knowledge on biodiversity; (ii) identify vulnerable and endangered ecosystems and species; (iii) identify activities and processes that endanger biodiversity; and (iv) contain strategies for the protection and sustainable use of island biodiversity.

(b) Development of community-based conservation areas and action strategies. Development of community-based conservation areas and action strategies, as a basis for effective biodiversity conservation by landowners, resource users and non-governmental organizations, in particular in those instances in which the Governments of small island developing States have limited capability to successfully implement biodiversity conservation initiatives. This would include (i) documentation of traditional ethnobiological knowledge, including identification of ecosystems, species and genetic types that are endangered or in short supply at the community level; (ii) factors responsible for their endangerment, and actions that can be taken to address the situation; and (iii) identification of knowledgeable persons who should be formally recognized and made integral participants in biodiversity conservation at the national and local levels. Legally protected areas must also be properly managed and designed to act as true reservoirs and nurseries for adjacent areas. The protected areas should include no-take and buffer zones, to severely restrict developments.

(c) Development of national alien species action plans. Developing and implementing national alien species action plans to prevent the introduction of, and facilitate the eradication and control of the spread of invasive, or potentially invasive, alien plants, animals, micro-organisms and genetic types in the fragile small-island environment. This also would include the development of codes of conduct and frameworks of legislation for the control of invasive and exotic plant and animal species in small island developing States in view of their potential negative impact on indigenous or endemic species. This priority would involve developing case studies and best practices and the

dissemination of lessons learned for dealing with global problems concerning invasive species that threaten biological diversity.

(d) Strengthening of education of island biodiversity. Strengthening of formal and non-formal education on biodiversity in the small island developing States, and its past and present importance as a foundation for sustainable island development. This should include the development of curriculum materials based on traditional ethnobiological knowledge.

(e) Implementation of international conventions. Promotion of international and regional cooperation and implementation of international conventions (e.g., the Convention of Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, regional seas conventions), treaties and other mechanisms to facilitate the successful conservation of island and marine biodiversity at the international and regional levels.

(f) Development of tools for sustainable use of biological resources. Improvement of existing criteria and methods for identifying biodiversity indicators in the small island developing States, specifically for use in national planning efforts. The resulting indicators also can form part of the vulnerability index being developed for small island developing States Developing plans, strategies and criteria to promote ecotourism is a priority for most small island developing States.

B. At the international level

9. Future action at the international level is needed in the following areas:

(a) Conservation of species. Support to small island developing States at the national and regional levels to identify, evaluate and conserve basic genetic resources for future generations. This may include: (i) the establishment of conservation systems; (ii) support for initiatives to enhance and strengthen ecosystems and germplasm conservation and use, in particular for national inventories and assessments of resource bases for ecosystems and germplasm conservation and use and identification and prioritization of needs and potential applications for enhanced regional cooperation; (iii) provision of training and technical assistance to small island developing States for developing inventories of flora, fauna and ecosystems.

(b) Habitat protection: (i) assistance to small island developing States to help them develop and implement plans for controlling land-based sources of pollution in line with the goals of the Global Programme of Action for the Sustainable Development of Small Island Developing States; (ii) support for regional institutions for the development of higher-yielding crop and animal varieties, including development of a database of these sources; (iii) assistance to small island developing States in developing or adopting and promoting good land use systems, especially in farming; (iv) assistance to small island developing States is needed for the diversification of their economies as a means of reducing the pressure of farming, which often leads to habitat destruction; this could be done by facilitating the formulation of mechanisms for international cooperation allowing small island developing States more access to markets under the World Trade Organization framework, as a means of facilitating economic diversification and biodiversity conservation.

(c) Control of alien invasive species. Building the capacity of the small island developing States to assess and manage problems related to alien invasive species against native species in protected areas is needed, including: (i) provision of technical assistance to develop and/or strengthen legislation on the control of alien species; strengthening of animal and plant protection quarantine services to ensure that international import and export standards are met; provision of assistance for the establishment of port reception facilities and the related waste disposal systems, for instance, sanitary land fills and incineration, including the control of alien species introduced via ship-generated waste.

(d) Implementation of conventions. Needed actions include: (i) provision of support for the participation of the representatives of small island developing States at meetings of the States parties to the Convention on Biological Diversity to facilitate appropriate consideration of the priorities of the States; (ii) support for the fuller participation of small island developing States in the United Nations Framework Convention on Climate Change, given the potential impacts of climate change on biodiversity; (iii) elaboration of issues on intellectual property rights as they pertain to the access to and utilization of genetic resources; this will include development of relevant awareness and publicity material (e.g., brochures and the convening of regional workshops).

(e) Food production. Actions needed include: (i) development of a database of crop and livestock cultivars with optimum production potentials, good resistance to diseases, quality characteristics and adaptability to local environment as a basis for sustainable intensification and growth of food production; (ii) provision of support for small

island developing States in accessing improved cultivars and seeds, as well as adapting them to local conditions.

(f) Negotiating capacity. Support is needed to facilitate the negotiations of fishing agreements between small island developing States and owners of foreign fishing fleets, taking into account the concerns of States within the framework of the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, as well as the participation of small island developing States in the implementation of the agreement reached at that Conference.